

REMARKS

Applicant has amended the Title as requested by the Examiner and has limited the words in the Abstract of Disclosure.

Applicant wishes to make of record and draw the attention of the Examiner to an error in the printed *Yamaguchi et al.* (U.S. Patent Publication 2007/0141978) wherein the assignee has been improperly identified by the U.S. Patent Office as "Nippon Soda Co., Ltd." Attached is a copy of the United States Patent Trademark Office Notice of Recordation of an assignment to Matsushita Electric Industry Company Ltd. Note, Matsushita recently had a corporate name change to Panasonic, which is also the assignee of the present application.

Additionally, the present inventors, Yamaguchi, Mori and Tanaka are also joint inventors in the cited U.S. Patent Publication 2004/0125761 to *Yamaguchi et al.*, assigned to the same applicant, Matsushita.

In accordance with the request on Page 4, Paragraph 4 of the Office Action, the *Yamaguchi et al.* publication under PCT Article 21(2) was in Japanese, not in English, and in accordance with MPEP §706.02(f)(1), its initial publication, is not entitled to a prior art date under 35 U.S.C. §102(e). Additionally, our present application is entitled to a foreign application priority date of November 26, 2003.

The present invention addresses particular problems and complexities that have developed why digital broadcasting is implemented and the composition of each set of broadcast digital content may include a plurality of multiplexed programs, a data broadcast, and like material.

The present invention is capable of automatically receiving and addressing any irregularity that is detected in any portion of such a digital broadcast content that is received

from another broadcast station. The present invention not only detects an irregularity, but efficiently deals with and/or converts the irregular content for re-transmission to the local broadcast station.

In implementing our present invention, we can utilize a detection unit for detecting a received broadcast data portion whose composition differs, along with a selection unit capable of selecting pre-stored processing models including a normal-case processing model and an irregular-case processing model. A conversion unit is capable of carrying out, based on a detection result and a selected processing model, a normal case conversion when that portion of the received broadcast data whose composition matches the composition information, and an irregular-case processing on that portion of the received data whose composition differs from the composition information, and thereby provides a data stream for a transmission unit operable to transmit the converted data, when applicable.

The Office Action acknowledged that the *Yamaguchi et al.* 2004 publication does not address irregular-case processing.

In fact, however, the *Yamaguchi et al.* 2004 publication does not provide a detection of an irregular-case conversion, nor does it store a plurality of processing models with pieces of identity information wherein each processing model includes a normal-case conversion processing information for when the received broadcasting data is normal and an irregular-case conversion processing information for when irregularity has been detected in the received broadcasting data.

Referring to each of our independent Claims 1, 17 and 19, they have now been amended consistent with the technical information disclosed in Figures 1 and 2, and the descriptions

provided in our specification related to a content processing model control unit 102 and replacement processing unit 106.

Utilizing the amended Claim 1 as an example, the invention includes a content transmission device that receives and converts digital broadcast data containing a multiplexed plurality of contents, and transmits the converted data. The content transmission device is characterized by:

a storing unit operable to store a plurality of processing models in correspondence with pieces of identity information, each processing model including composition information indicating a composition of the contents, normal-case conversion processing information for when the received broadcast data is normal, and irregular-case conversion processing information for when irregularity has been detected in the received broadcast data; and

a conversion unit operable to carry out, based on a detection result and the selected processing model, normal-case conversion processing on a portion of the received broadcast data whose composition matches the composition information, and irregular-case conversion processing on the portion of the received broadcast data whose composition differs from the composition information, the irregular-case conversion processing corresponding to the normal-case conversion processing in accordance with the one piece of identity information that has been acquired.

With the above described construction, the content transmission device archives an advantageous effect of, when an irregularity is detected in a portion of the digital broadcast data distributed from an external device to swiftly and automatically take an appropriate action to deal with both the normal and irregular portions respectively, and to retransmitting the broadcast data.

In defining an invention, a difficulty arises in using a two-dimensional verbal definition to represent a three-dimensional invention. To provide protection to an inventor and notification to the public, a proper interpretation of terms utilized in the claims must be adhered to in order to enable an appropriate evaluation of the invention and its scope relative to cited prior art.

Thus, not only should the concept of the invention be found in the prior art, but further, any cited structural elements in a prior art reference should be performing the same function with the same technical understanding to a person of ordinary skill in the field as the invention claims at issue.

Yamaguchi et al. (2004) discloses a device that stores a selection list 401 (Figure 4) and a replacement list 1001 (Figure 10). The selection list 401 is described in detail as follows:

“Judgment list storage unit 102 stores the selection list shown in FIG. 4.... by a PID is not selected (i.e. element not for inclusion in the data broadcast program of the second broadcast station). (Paragraphs [0092] - [0094]),” and the replacement list 1001 is described in detail as follows:

“Replacement list 1001 includes a data broadcast program name column 1002, a broadcast period column 1003, a PID column 1004, ... PID column 1004 shows the PIDs of TS packets included in distributed data broadcast program transport streams... in which the data broadcast program TS transmission device of embodiment 2 is provided. (Paragraph [0118] - [0121]).

Also, the Paragraph [0124] in the reference of Yamaguchi describes “... and if “YES,” unit 103 judges whether the PID of the separated TS packet matches a PID in PID column 404 corresponding to a “1” selection flag in selection flag column 405... If “YES,” unit 103 notifies replacement execution unit 104 of the matching module name and the corresponding PID, and sends a replacement instruction to unit 104.”

However, neither the selection list 401 nor the replacement list 1001 has a characteristic of “storing a plurality of processing models in correspondence with pieces of identity information, each processing model including normal-case conversion processing information for when the received broadcast data is normal, and irregular-case conversion processing information for when irregularity has been detected in the received broadcast data,” which is described in Claim 1 after amendment in the present application. *Yamaguchi et al.* (2004) does not disclose a conversion unit that is a characteristic of Claim 1 after amendment.

Therefore, the separation judgment unit 103 in *Yamaguchi et al.* (2004) repeats making a comparison and running a search before determining what processing is to be performed on each of the separated TS packets, by tracing the items on the selection list 401 and the replacement list 101, which include the present time, PID, selection flag, etc. In other words, processing appropriate for a subsequent packet must be determined regardless of processing determined for the current packet. Therefore, it takes time to perform appropriate processing and generate transmission data after receiving a TS packet.

When performing conversion processing (replacement processing in the reference) on program content that is being broadcast, it is necessary to swiftly complete the conversion processing, and generate and transmit transmission data, so as to maintain a real-time performance. However, with the technique disclosed in *Yamaguchi et al.* (2004), it takes time to complete the conversion processing, which is likely to cause a delay in transmission of the transmission data. As a result, images may be distorted or frozen in an apparatus for receiving and playing the transmission data.

The content transmission device in our amended independent claims includes a unique storing unit. Therefore, a pair of the normal-case conversion processing and the irregular-case conversion processing is determined based on each of the pieces of identity information. Then, in accordance with a detection result (normal case/irregular case), the conversion unit carries out the predetermined normal-case conversion processing on a portion of the broadcast data that has been detected as normal, and the irregular-case conversion processing corresponding to the normal-case conversion processing on a portion of the broadcast data that has been detected as irregular, thereby achieving an advantageous effect of swiftly generating output data.

The *Keck et al.* (U.S. Patent Publication 2004/0228414) is directed to improving the processing of transport stream data in a set top box to direct the appropriate audio and video data to a decoder. Purportedly the problem that existed in such set top boxes was a substantial duplication of processing steps in differentiating between service information that set up meaningful tables and differentiating and checking a plurality of tables that may exist under a single packet identification.

Thus, there was a desire to optimally balance between the hardware processing that would substantially filter and reduce the amount of data and the necessary driver software processing for implementing the *Keck* invention is a specific set top box chip circuit 102 as shown in Figure 1. Additionally, memory chip 104 was used as a buffer.

Basically the *Keck* reference wants to parse, pursuant to their specific set top box chip, a transport stream to separate a transport packet. Status items are determined from the packet such as audio and video signals and a relevant portion of the transport packet along with the status items can then be stored in a cyclic buffer memory connected to the chip. Accordingly, that payload data from the transport packets with a particular PID, that has passed a filtering procedure in the hardware circuit, is then posted to a particular cyclic buffer. Appropriate address pointer registers as shown in Figure 1, 18a-n, can be updated and the driver software 115 shown in the host CPU 108 can, when the host CPU circuit is interrupted, be utilized to evaluate status item descriptors read from the memory circuit 104 instead of performing additional steps to regenerate the status items.

Accordingly, processing information by the CPU is allegedly reduced.

The Office Action, however, contended that the *Keck* reference taught similar or irregular case processing with reference to Paragraph 0073, which is directed to a payload entity that has

failed processing because of the setting of a global fail flag set. That is, the hardware filtering apparently has failed.

Keck discloses that “A payload entity that has failed processing (e.g., a global fail bit is set) may be excluded from posting... but now ends in the current transport packet and has a global fail flag set (e.g., because the CRC was wrong or incomplete, filtering now fails) ... Invalidation may be accomplished by rewinding the posting address to the last valid address pointer so that new data may overwrite the invalid data... (paragraph [0073]).”

The processing of overwriting the invalid data with new data described above is alleged to be an irregular-case conversion processing similar to the present application.

However, *Keck* does not specifically disclose how the normal conversion processing information and the irregular-case conversion processing information are stored. In other words, *Keck* does not disclose a construction equivalent to the storing unit of the present application.

Accordingly, *Keck* does not disclose or suggest how an appropriate irregular-case conversion processing and a normal-case conversion processing are performed, in a case where the normal-case conversion processing and the irregular-case conversion processing that are to be performed differ depending on a TS. *Keck* clearly does not disclose a construction equivalent to the conversion unit of our amended claims.

Therefore, with the construction disclosed by *Keck*, it would not be possible to swiftly and automatically select and carry out appropriate normal-case conversion processing and irregular-case conversion processing, in a case where different processing needs to be performed for each piece of broadcast data (TS) that is to be received.

The storing unit and conversion unit, as described above, thereby achieving an advantageous effect of swiftly generating transmission data.

"A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994); *see KSR*, 127 S. Ct. at 1739-40 (explaining that when the prior art teaches away from a combination, that combination is more likely to be nonobvious). Additionally, a reference may teach away from a use when that use would render the result inoperable. *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1354 (Fed. Cir. 2001).

In re Icon Health and Fitness, Inc. 2007 U.S. App. Lexis 18244,
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Applicant submits that any combination of references that must be modified beyond their functions is suggestive of an unintended use of hindsight that may have been utilized to drive the present rejection. This is particularly true for an Examiner who is attempting to provide a diligent effort that only patentable subject matter occurs. The *KSR* Guidelines do not justify such an approach. There is still a requirement for the Examiner to step back from the zeal of the examination process and to appreciate that a Patent Examiner has to wear both hats of advocating a position relative to the prior art while at the same time objectively rendering in a judge-like manner a decision on the patentability of the present claims.

As set forth in MPEP 2142,

To reach a proper determination under 35 U.S.C. §103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. In view of all factual information, the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. Knowledge of applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the "differences," conduct the search and evaluate the "subject matter as a whole" of the invention. The tendency to resort to "hindsight" based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.

The applicant respectfully submits that the combination of the *Yamaguchi et al.* (2004) and the *Keck et al.* reference fails to teach the subject matter now set forth in our independent claims.

The Office Action further asserted that Claim 4 was obvious under 35 U.S.C. §103 over a combination of the *Yamaguchi et al.* (2004) in view of *Keck et al.*, when further taken in view of *Hanson et al.* (U.S. Patent Publication 2004/0123332).

The KSR Court noted that obviousness cannot be proven merely by showing that the elements of a claimed device were known in the prior art; it must be shown that those of ordinary skill in the art would have had some “apparent reason to combine the known elements in the fashion claimed.”

In the same way, when the prior art teaches away from the claimed solution as presented here, obviousness cannot be proven merely by showing that a known composition could have been modified by routine experimentation or solely on the expectation of success; it must be shown that those of ordinary skill in the art would have had some apparent reason to modify the known composition in a way that would result in the claimed composition.

Ex parte Whalen et al., Appeal 2007-4423, slip op. at 16 (B.P.A.I. July 23, 2008) (citing *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007)).

The *Hanson et al.* reference, however, was cited, simply to teach a reception unit that could receive broadcast data being continually sent from a broadcast head end and more specifically, could supplement a linear television content by loop or carousel broadcasting with software and interface modules that could be placed in any redundant spaces in the digital television signal for use by the set top box.

Needless to say, the *Hanson et al.* reference does not address the specific claim terms and their function as defined in our amended claims. The combination of these three references are

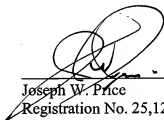
lacking the particular elements of not only our independent claims, but also our dependent claims.

It is believed that our case is now in condition for allowance.

If the Examiner believes a telephone interview will assist in the prosecution of this case, the undersigned attorney can be contacted at the listed telephone number.

Very truly yours,

SNELL & WILMER L.L.P.

A handwritten signature in black ink, appearing to read 'Joseph W. Price', is written over a horizontal line.

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